

## NONLINEAR EDGE-ENHANCEMENT FILTER

### ABSTRACT OF THE DISCLOSURE

5       Methods and apparatus for digital data array edge enhancement are disclosed. A local  
data window containing a data sample  $s$  is selected. Minimum and maximum sample values,  
 $max$  and  $min$ , are located within the window, and an edge deflection value  $ed$  is defined to  
have a value between  $max$  and  $min$ . A diffusion quantity is then calculated to move the value  
of  $s$  towards  $max$ , if  $s$  is greater than  $ed$ , or towards  $min$ , if  $s$  is smaller than  $ed$ . This  
10       approach has advantages over gradient-based edge-enhancement, including simplicity,  
convergence speed, and stability.